

Environmental Sustainability Plan (ESP)

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Sr. No.	Proposed Interventions/activities	Compliances applicable	Possible Environmental Impacts	Mitigation Measures	Scope for the integration of environmental sustainability concerns	Resource required (budget technical support etc.)
1	Renovations works :	1.Municipal Solid Wastes (Management and Handling) Rules, 2000 2.Construction & Demolition Waste Management Rules, 2016 - Notification	Generation of the debris	Debris will be put to alternate use such as land filling in consultation with Local Bodies (Municipal Authority or Pollution Control Board) Will follow constructional operations: <ul style="list-style-type: none"> • The operations like mixing raw material will be done in areas where people's movement is less and workers should use masks. • Construction equipment that emits noise will not be used in residential areas during night or near schools and hospitals • The workers will be 		NA One technical person required to maintained production unit

			<ul style="list-style-type: none"> • Housing the number animals in shed may result discomfort among the animals. It may also lead to skin diseases and wounds • Enteric fermentation of roughages will release GHGs • Water bodies nearby shed may get pollute due to improper cow urine management 	<p>provided with gloves, masks, helmets etc.</p> <ul style="list-style-type: none"> • Use of child labour will be avoided (to be ensured with contractor). • As per the shed requirement animals will placed • Proper management of roughages and cow dung will reduce emission of GHGs • Animal urine will be collected properly and disposed properly by making compost pit. 	<ul style="list-style-type: none"> • Promotion of organic cultivation through making of organic manure to improve soil fertility in long term basis <p>Vermicomposting Unit:</p> <ul style="list-style-type: none"> • Better recycled of agro wastes. • Increase the fertility of soil, crop yield • Reduced the GHGs like CO₂ (Burning of residues) and NO₃- (from Fertilizers) • Collecting the glass and plastic waste separately and 	
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					<p>deposing off as per the rules.</p> <ul style="list-style-type: none"> • Collaborate with the society for recycling the glassware. <p>Fumigation chamber:</p> <ul style="list-style-type: none"> • Safe storage facilities will reduced the toxic gases in the atmosphere. • Reduced the cost and doses of storage pesticides and their hazards. 	
2.	Computer and accessories	E- Waste (management and Handling) Rules, 2018	E-Waste (unwanted, non-working or obsolete) generated at AU is to be managed in a manner which shall protect health and environment against any adverse effects, which may result from hazardous substance contained in such wastes.	<ul style="list-style-type: none"> • E – waste will be channelized through collection centre or dealer of authorised producer or dismantler or recycler or through the designated take back service provider of the producer to authorised dismantler or recycler • Maintain a record of e-waste generated by them in Form-2 and make such 	<ul style="list-style-type: none"> • Reusing, recycling of computer accessories 	NA

				records available for scrutiny by the concerned State Pollution Control Board;		
3	Chemicals Waste from labs	Hazardous Wastes (Management and Handling) Rules, 1989 and Amendment Rules, 2000 & 2003	Disposal of laboratory waste (chemicals) into open gutter may contaminate the soil, ground water, etc Lack of safe guard poses risk of exposure to harmful chemicals and accidents	<ul style="list-style-type: none"> • Collection of waste separately in mini tub / tank. Consultation and send it to CFTP by registering with SPCB. • SOPs will be made available in the laboratories • Provision of proper ventilation, lighting system in labs • Fire fighting facilities in the lab • Labs will equipped with the first aid kits and eye wash facilities • Awareness to all stake holders on fire fighting system. Providing information through poster, fixtures, etc and mock drills for students 	<ul style="list-style-type: none"> • Paper towels, rags, vermiculite used to clean up chemical spills. • Gloves and mask used to protect workers when handling hazardous chemicals 	

4	Electricity and safety	Energy Conservation Act 2001	AU that have load of 100 kW or a contract demand of 120 kVA and above ¹	<ol style="list-style-type: none"> 1. AU that have Air conditions with a load more than 100 kW follow ECBS minimum energy standards 2. Regular and stabilized electricity supply (220-230 volts) preferably green and captive will be ensured. 3. Provision of standby sources for power supply to sensitive and costly equipment 4. Ground all sources of power supply for human and equipment safety 	<ul style="list-style-type: none"> • Provision of Automated Mains Failure to avoid load fluctuation and fire hazards • Replace the AC with coolers to reduce the electricity consumption, CFC gases and avoids the dryness in the rooms 	NA
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¹ECBC sets minimum energy standards for commercial buildings having a connected load of 100kW or contract demand of 120 kVA and above

5	Farm Inputs: Usage of Pesticides and fertilizers	Insecticides Act, 1968	<ul style="list-style-type: none"> Indiscriminate use of pesticides and fertilizers will pollute air, water and soil 	<ul style="list-style-type: none"> Site specific nutrient management and, IPM & INM methods are followed (as per the requirement of dose of fertilizers and pesticides) Not using the banned pesticides listed by WHO 	<ul style="list-style-type: none"> Following INM and IPM modules will reduced dose of fertilizers and pesticides results in improvements in soil and micro-climate sustainability 	NA
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Bardhan
Signature of Co-Nodal Officer (ESP)
Date: 23/10/19

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Signature of Nodal Officer (NO)
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Signature of Principal Investigator (PI)
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